

**In the Claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims**

1. (Currently Amended) A computer implemented system for control factor management for a work-in-process (WIP) in a production system, comprising:  
a plan engine to generate a plan for an order for the WIP according to a control factor;  
and  
a control factor management module to adjust the control factor of the plan engine according to a current value of the control factor in the production system, a target value of the control factor, and a priority of the WIP, wherein the control factor management module comprises a control factor matrix for the WIP, the control factor matrix being a function of the current value of the control factor in the production system, the target value of the control factor, the priority of the WIP, and a target date of the order.

2. (Cancelled)

3. (Currently Amended) The computer implemented system for control factor management as claimed in claim 1, wherein the control factor management module comprises a database to store a plurality of historical control factors for the WIP.

4. (Original) The computer implemented system for control factor management as claimed in claim 3, wherein the control factor management module outputs an alarm signal when the current value of the control factor deviates from the adjusted control factor.

5. (Original) The computer implemented system for control factor management as claimed in claim 4, wherein the control factor management module comprises a production monitor module to detect the current value of the control factor in the production system.

6. (Original) The computer implemented system for control factor management as claimed in claim 1, wherein the WIP comprises wafers for processing and the production system is an IC foundry.

7. (Original) The computer implemented system for control factor management as claimed in claim 6, wherein the control factor comprises a cycle time for the WIP.

8. (Original) A computer implemented system for output planning with control factor management in a production system, comprising:

a capacity model, considering a plurality of capacity vectors in the production system;  
a plan engine to receive an order for a product, reserve a capacity for the order based on the capacity model, and generate a plan for a work-in-process (WIP) of the order according to a control factor; and

a control factor management module to adjust the control factor of the plan engine according to a current value of the control factor in the production system, a target value of the control factor, and a priority of the WIP.

9. (Original) The computer implemented system for output planning with control factor management as claimed in claim 8, wherein the control factor management module comprises a control factor matrix for the product, the control factor matrix being a function of the current value of the control factor in the production system, the target value of the control factor, the priority of the WIP, and a target date of the order.

10. (Original) The computer implemented system for output planning with control factor management as claimed in claim 9, wherein the control factor management module comprises a database to store a plurality of historical control factors for the WIP.

11. (Original) The computer implemented system for output planning with control factor management as claimed in claim 10, wherein the control factor management module outputs an alarm signal when the current value of the control factor deviates from the adjusted control factor.

12. (Original) The computer implemented system for output planning with control factor management as claimed in claim 11, further comprising a production monitor module to detect the current value of the control factor in the production system.

13. (Original) The computer implemented system for output planning with control factor management as claimed in claim 8, wherein the WIP comprises wafers for processing and the production system is an IC foundry.

14. (Original) The computer implemented system for output planning with control factor management as claimed in claim 13, wherein the control factor comprises a cycle time for the WIP.

15. (Original) A computer implemented system for output planning with control factor management in an IC foundry, comprising:

a capacity model, considering a plurality of capacity vectors in the IC foundry;

a plan engine to receive an order for an IC product, reserve a capacity for the order based on the capacity model, and generate a plan for a work-in-process (WIP) of wafers for processing of the order according to a control factor; and

a control factor management module to adjust the control factor of the plan engine according to a current value of the control factor in the IC foundry, a target value of the control factor, and a priority of the WIP.

16. (Original) The computer implemented system for output planning with control factor management as claimed in claim 15, wherein the control factor comprises a cycle time for the WIP.

17. (Previously Presented) The computer implemented system for output planning with control factor management as claimed in claim 16, wherein the control factor management module comprises a control factor matrix for the WIP, the control factor matrix being a function of a current value of the cycle time in the IC foundry, a target value of the cycle time, the priority of the WIP, and a target date of the order.

18. (Original) The computer implemented system for output planning with control factor management as claimed in claim 17, wherein the control factor management module comprises a database to store historical cycle time for the WIP.

19. (Original) The computer implemented system for output planning with control factor management as claimed in claim 18, wherein the control factor management module comprises a production monitor module to detect the current value of the cycle time in the IC foundry.

20. (Previously Presented) The computer implemented system for output planning with control factor management as claimed in claim 16, wherein the control factor management module outputs an alarm signal when the current value of the control factor deviates from the adjusted control factor.

21. (Original) A method of control factor management for a work-in-process (WIP) in a production system, comprising the steps of:

determining a control factor for the WIP;

providing a target value of the control factor for the WIP;

detecting a current value of the control factor for the WIP in the production system; and  
adjusting the control factor according to the current value of the control factor, the target  
value of the control factor, and a priority of the WIP.

22. (Original) The method of control factor management as claimed in claim 21, wherein  
the control factor is a cycle time for the WIP.

23. (Currently Amended) The method of control factor management as claimed in  
claim 21, wherein the control factor is adjusted with a control factor matrix as a function of the  
current value of the control factor in the production system, the target value of the control factor,  
the priority of the WIP, and a target date of an the order.

24. (Previously Presented) A method of output planning with control factor  
management in a production system, comprising the steps of:  
providing a capacity model considering a plurality of capacity vectors in the production  
system;  
receiving an order for a product;  
determining a control factor for the product;  
generating a plan for the order based on the capacity model according to the control  
factor;  
providing a target value of the control factor for a work-in-process (WIP) of the product;  
detecting a current value of the control factor for the WIP in the production system;

adjusting the control factor according to the current value of the control factor, the target value of the control factor, and a priority of the WIP; and  
adjusting the plan according to the control factor.

25. (Original) The method of output planning with control factor management as claimed in claim 24, wherein the control factor is a cycle time for the WIP.

26. (Original) The method of output planning with control factor management as claimed in claim 24, wherein the control factor is adjusted with a control factor matrix as a function of the current value of the control factor in the production system, the target value of the control factor, the priority of the WIP, and a target date of the order.

27. (Previously Presented) A method of output planning with control factor management in an IC foundry, comprising the steps of:  
providing a capacity model considering a plurality of capacity vectors in the IC foundry;  
receiving an order for an IC product;  
providing a control factor for the IC product;  
providing a target value of the control factor for a work-in-process (WIP) of the IC product;  
detecting a current value of the control factor for the WIP in the IC foundry;  
adjusting the control factor according to the current value of the control factor, the target value of the control factor, and a priority of the WIP; and

generating a plan for the WIP of the order based on the capacity model according to the control factor.

28. (Original) The method of output planning with control factor management as claimed in claim 27, wherein the control factor is a cycle time for the WIP.

29. (Original) The method of output planning with control factor management as claimed in claim 27, wherein the control factor is adjusted with a control factor matrix as a function of the current value of the control factor in the IC foundry, the target value of the control factor, the priority of the WIP, and a target date of the order.

30. (Original) A storage medium storing a computer program which when executed causes a computer to perform a method of control factor management for a work-in-process (WIP) in a production system comprising the steps of:

determining a control factor for the WIP;  
calculating a target value of the control factor for the WIP;  
detecting a current value of the control factor for the WIP in the production system; and  
adjusting the control factor according to the current value of the control factor, the target value of the control factor, and a priority of the WIP.

31. (Original) The storage medium as claimed in claim 30, wherein the control factor is a cycle time for the WIP.

32. (Currently Amended) The storage medium as claimed in claim 30, wherein the control factor is adjusted with a control factor matrix as a function of the current value of the control factor in the production system, the target value of the control factor, the priority of the WIP, and a target date of an the order.

33. (Original) A storage medium storing a computer program which when executed causes a computer to perform a method of output planning with control factor management in a production system comprising the steps of:

- receiving an order for a product;
- determining a control factor for the product;
- reserving a capacity and generating a plan for the order according to the control factor;
- calculating a target value of the control factor for a work-in-process (WIP) of the product;
- detecting a current value of the control factor for the WIP in the production system;
- adjusting the control factor according to the current value of the control factor, the target value of the control factor, and a priority of the WIP; and
- adjusting the plan according to the control factor.

34. (Original) The storage medium as claimed in claim 33, wherein the control factor is a cycle time for the WIP.

35. (Original) The storage medium as claimed in claim 33, wherein the control factor is adjusted with a control factor matrix as a function of the current value of the control factor in the

production system, the target value of the control factor, the priority of the WIP, and a target date of the order.

36. (Original) A storage medium storing a computer program which when executed causes a computer to perform a method of output planning with control factor management in an IC foundry comprising the steps of:

- receiving an order for an IC product;
- determining a control factor for the IC product;
- reserving a capacity and generating a plan for the order according to the control factor;
- calculating a target value of the control factor for a work-in-process (WIP) of the IC product;
- detecting a current value of the control factor for the WIP in the IC foundry;
- adjusting the control factor according to the current value of the control factor, the target value of the control factor, and a priority of the WIP; and
- adjusting the plan according to the control factor.

37. (Original) The storage medium as claimed in claim 36, wherein the control factor is a cycle time for the WIP.

38. (Original) The storage medium as claimed in claim 36, wherein the control factor is adjusted with a control factor matrix as a function of the current value of the control factor in the IC foundry, the target value of the control factor, the priority of the WIP, and a target date of the order.